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ABSTRACT

This document details the Montessori approach to educating children from age 3 through age 12. Section 1 provides an introduction to Montessori and its history, focusing on Maria Montessori's work, the Montessori educational philosophy, educational practices (including multi-age grouping and teaching methods, Montessori teachers and their training, educational materials, the use of television and computers as educational tools, and Montessori at home). Section 2 describes parenting and teaching children in different age groups, while section 3 presents information on preparing the environment. Sections 4 through 12 detail the following aspects of the Montessori approach for children ages 3 to 6 years: family life, toys and games, earth, plants and animals, people, language, music, art, and mathematics. Sections 13 through 19 detail the following areas of the Montessori approach for students ages 6 to 12 years: family, earth, plants and animals, history, geography, and biography; language; the arts; and geometry, mathematics, and invention. Section 20 describes the Montessori approach for students from 12 to 18 years, focusing on the Erdkinder. (KB)

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Michael Olaf's Essential Montessori,

School Edition for Ages 3-12+

Text Only:

INTRODUCTION TO MONTESSORI

History of Montessori

Just who is this woman who began an educational revolution that changed the way we think about children, more than anyone before or since?

Maria Montessori was always ahead of her time. She was born in Italy in 1870 and against all tradition began, at age thirteen, to attend a boys' technical school in preparation for her dream of being an engineer. After seven years of engineering she began premed and became the first female doctor in Italy.

In her work at the University of Rome's psychiatric clinic, Dr. Montessori developed an interest in the treatment of children, and for several years, wrote and spoke on their behalf. She based her conclusions only the direct observation of children, accepted no preconceived opinions or theories about their abilities, and did not attempt to manipulate their behavior toward any end. She constantly experimented and developed materials based on the needs, interests, and developing abilities of children.

At age twenty-eight, Dr. Montessori became the director of a school for "unhappy little ones" which she called mentally disabled children. She spent eleven hours a day at the school, and late into the night at home, working on this project.

After two years under her guidance, these children, who formerly had been considered ineducable, took a school examination along with normal children and passed successfully. Educators called Dr. Montessori a miracle worker. What was her response? If mentally disabled children could be brought to the level of normal children, Dr. Montessori wanted to study the potential of "normal" children.

She went back to school to study anthropology and psychology and finally, in 1907, received the chance to intensively study normal children. She was asked to take charge of fifty children from the dirty, desolate streets of the San Lorenzo slum in the city of Rome.

Like others I had believed that it was necessary to encourage a child by means of some exterior reward that would flatter his baser sentiments, such as gluttony, vanity, or self-love, in order to foster in him a spirit of work and peace. And I was astonished when I learned that a child who is permitted to educate himself really gives up these lower instincts. I then urged the teachers to cease handing out the ordinary prizes and punishments, which were no longer suited to our children, and to confine themselves to directing them gently in their work.

The news of her amazing success soon spread around the world and people came from far and wide to see the children for themselves. She was as surprised and awed as visitors to the Casa dei Bambini.

Supposing I said there was a planet without schools or teachers, where study was unknown, and yet the inhabitants—doing nothing but living and walking about—came to know all things, to carry in their minds the whole of learning; would you not think I was romancing? Well, just this, which seems so fanciful as to be nothing but the invention of a fertile imagination, is a reality. It is the child's way of learning. This is the path he follows. He learns everything without knowing he is learning it, and in doing so he passes little by little from the unconscious to the conscious, treading always in the paths of joy and love.

—Dr. Maria Montessori

From a letter to Maria Montessori by Sigmund Freud around this time:

Like anyone who deals with the study of the psyche of the child I am in deep sympathy with your efforts, which show at the same time a love for—as well as an understanding of—man, and my daughter who is an analytical pedagogue considers herself as one of your followers.

Invited to the USA by Alexander Graham Bell, Thomas Edison, and others, Dr. Montessori made an appearance at Carnegie Hall in New York in 1915. The following is from a 1913 letter from Alexander Graham Bell:

Dear Dr. Montessori, On behalf of the Montessori Educational Association of America I have the honor to inform you that we have elected you as its first Honorary member and to express to you in this way our deep appreciation of your great work for humanity.

Dr. Montessori was then invited to set up a classroom at the Panama-Pacific International Exposition in San Francisco so that more interested people could observe her methods. A room was built with a glass wall behind which spectators sat and watched the children. Twenty-one children, all completely new to a Montessori environment, attended for four months. The observation seats were filled every day and at noon, when the children served lunch to their classmates and washed up afterwards, there was standing room only in the audience.

The two gold medals awarded for education at the Panama-Pacific International Exposition both went to the Montessori class.

After WWII Dr. Montessori's concern with education for peace intensified and she was twice nominated for the Nobel Peace Prize. She instituted the study of Cosmic Education for the child from six to twelve years of age, since she could see that in meeting the needs of the child, the needs of the world would also be met. "Cosmic Education" is the child's gradual discovery, throughout the whole of childhood, of the interrelatedness of all things on earth, in the past, in the present, and in the future.

It is with this understanding that the child comes to discover her role, her fulfillment and her responsibility, in this beautiful mosaic of life. One of the most important aspects of Montessori is this love and responsibility which begins with the one-year-old serving lunch, and includes social service carried out by Montessori high school students.

Interest in the Montessori method has grown steadily throughout the world, and recently has made an amazing comeback in this country. Montessori environments meet the needs of children as early as a few weeks old in day care centers, and through the high school years.

Specific Elements of Montessori Philosophy on which the Educational Method is Based (3-12 Introduction to Montessori)

The Periods of Development: Children are grouped in three-year spans in Montessori schools because of the physical, emotional and mental differences which are marked between one period and another. The methods of teaching and the curriculum are different, and the teacher training is only applicable for the age span the adult is trained to teach.

The Human Tendencies: The practical application of the Montessori method is based on human tendencies, which are operative for everyone at every age. These include tendencies to explore, move, share with a group, to be independent and make decisions, create order, develop self-control, to abstract ideas from experience, to use the creative imagination, to work hard, repeat, concentrate, and to perfect one's efforts and creations.

The Process of Learning: There are three steps to learning

(1) be introduced to the concept,

(2) develop and grasp the concept through work, experimenting, creating, transforming . . .

(3) posses understanding of, and perhaps teach another, the concept.

In Montessori the child is never asked to read or listen to a lecture (stage 1) and be tested (stage 3), but stage two is the most important and the longest, and it is the emphasis of developing, working, experimenting, creating, transforming, a concept that enables the child to really *learn*.

Indirect Preparation: Montessori education is sometimes thought of as rigid, but this is because the steps of learning any concept are so well analyzed by the adult and are systematically presented to the child. A child is always learning something that is indirectly preparing him to learn something else, making education a joyful discovery instead of drudgery.

The Prepared Environment: True education does not occur when information passes from the teacher (or video, or book, etc.) directly to the student.

We keep in mind a triangle of the student, the teacher, and the environment. It is the role of the teacher to prepare, and continue to prepare, the environment, to link the child to it through well-thought-out lessons, and to facilitate the child's exploration and creativity. Children often surpass the level of knowledge of the teacher in all areas and learn to find answers.

Observation: Scientific observations are constantly carried out and recorded by the teacher. These observations are made on the level of concentration of each child, the introduction to and mastery of each piece of material, the social development, physical health, and so on. It is on this observation of each child, the group, the environment, that all of the teaching is based and because of it that Montessori education succeeds.

Details of Montessori Education
(3-12 Introduction to Montessori)

(1) Multi-age grouping: Children are grouped in mixed ages and abilities in three to six year spans: 0-3, 3-6, 6-12 (sometimes 6-9 and 9-12), 12-15, 15-18. There is constant interaction, problem solving, child to child teaching, and socialization. Children are challenged according to their ability and never bored.

(2) Work centers: The environment is arranged according to subject area, and children are always free to move around the room instead of staying at desks. There is no limit to how long a child can work with a piece of material. At any one time in a day all subjects—math, language, science, history, geography, art, music, etc.—will be being studied, at all levels.

(3) Teaching method: Rather than lecturing to large or small groups of children, the teacher is trained to teach one child at a time, and to oversee thirty or more children working on a broad array of tasks. She is facile in the basic lessons of math, language, the arts and sciences, and in guiding a child's research and exploration, capitalizing on his interest in and excitement about a subject.

(4) Basic lessons: The Montessori teacher spends a lot of time during teacher training practicing the many lessons with materials in all areas. She must pass a written and oral exam on these lessons in order to be certified. She is trained to recognize a child's readiness—according to age, ability, and interest—for a specific lesson, and is prepared to guide individual progress.

(5) Areas of study: All subjects are interwoven, not taught in isolation, the teacher modeling a "Renaissance" person of broad interests for the children. A child can work on any material he understands at any time.

(6) The schedule: There are two 3-hour, uninterrupted, work periods each day, not broken up by required group lessons. Adults and children respect concentration and do not interrupt someone who is busy at a task. Groups form spontaneously or are arranged ahead by special appointment.

(7) Class size. The most successful classes are of 30-35 children to one teacher (who is very well trained for the level she is teaching), with one nonteaching assistant. This is possible because the children stay in the same group for three to six years and much of the teaching comes from the children and the environment.

(8) Learning styles: All kinds of intelligences and styles of learning—musical, bodily-kinesthetic, spatial, interpersonal, intrapersonal, intuitive, and the traditional linguistic and logical-mathematical (reading, writing, and math)—are nurtured. This particular model is backed up by Harvard psychologist Howard Gardner's theory of multiple intelligences.

(9) Assessment: There are no grades, or other forms of reward or punishment, subtle or overt. Assessment is by portfolio and the teacher's observation and record keeping. The test of whether or not the system is working lies in the accomplishment and behavior of the children, their happiness, maturity, kindness, and love of learning and work.

(10) Requirements for age 3-6: There are no academic requirements for this age, but children are exposed to amazing amounts of knowledge and often learn to read, write and calculate beyond what is usually thought interesting to a child of this age.

(11) Requirements for ages 6-18: There are no curriculum requirements except those set by the state, or college entrance requirements, for specific grades and these take a minimum amount of time.

From age six on, students design 1-2 week contracts with the teacher to guide their required work, to balance their general work, and to teach them to become responsible for their own time management and education. The work of the 6-12 class includes subjects usually not introduced until high school.

(13) More than academic education: Education of character is considered equally with academic education, children learning to take care of themselves, their environment, each other—cooking, cleaning, building, gardening, moving gracefully, speaking politely, being considerate and helpful, doing social work in the community, etc.

In the following quote Dr. Montessori, speaks of the first *Casa dei Bambini* (Children's House) in Rome, illustrating the important discovery, and the core of all Montessori work today—when the environment meets all of the needs of children they become, without any manipulation by the adult, physically healthy, mentally and psychologically fulfilled, extremely well-educated, and brimming over with joy and kindness toward each other.

When the children had completed an absorbing bit of work, they appeared rested and deeply pleased. It almost seemed as if a road had opened up within their souls that led to all their latent powers, revealing the better part of themselves. They exhibited a great affability to everyone, put themselves out to help others and seemed full of good will.

Montessori Teachers
(3-12 Introduction to Montessori)

We know that allowing for the work of the inner guide is the hardest part of working in the classroom. It is easy to emphasize our own agenda; to weigh the academics disproportionately, to push for the quick solution, to substitute our will for the child's. It is so difficult to keep from over-directing, to observe without judgement, to wait for the child to reveal herself. Yet, over and over again, when we do honor that inner guide, the personality unfolds in a way that surprises—that goes beyond what we could direct or predict.

—Dr. Sharon Dubble, Ph.D.

NAMTA Journal

Montessori has worked all over the world, with all kinds of children (gifted, normal, learning disabled, blind, etc.) and environments (from refugee camps and slums, to elegant schools in beautiful private homes). It is not the richness of the environment that determines the success of the Montessori method, but the preparation of the teacher.

Education is the kindling of a flame, not the filling of a vessel.

—Socrates

Dr. Montessori learned early in her work that the education of teachers who are able to kindle flames rather than just fill vessels is not so easy. The Montessori method is philosophically and practically different from other educational methods, and also very different from the personal educational experience of most adults who become Montessori teachers. The words "directress" or "guide" is sometimes used rather

than "teacher" because of the different role of the adult in relating to the child—directing him to find the best way to learn from the environment rather than from the adult.

Good Montessori teachers come from varied backgrounds, from artists to scientists, mountain climbers and dancers, to grandmothers!

What qualities are needed to become a Montessori Directress/Director?

A commitment to the full development of the child—to helping the child's personality unfold. Someone who therefore seeks tirelessly to gain the interest of each child - ready to enthuse him but also able to stand back and take a supporting role when the child has become engaged in his own work. Also patience, a sense of humor, and a wide variety of interests which will help to bring perspective to their work and enhance the children's lives.

—Jethryn Hall

M.M.T.O, AMI Training Center, London, UK

In 1929 Dr. Montessori founded the Association Montessori International as a parent body to supervise the training of teachers. This AMI training is now available on all continents. As this is my Montessori training, from 0-12, I am able to write knowledgeably only about AMI training courses:

Masters Degree

AMI Montessori training courses are graduate level studies and there are several possibilities for receiving masters credit. For example, any one of the following courses count as 27 hours of a 36-hour masters at Loyola College in Baltimore.

Length of time: Each course (for age 0-3, 3-6, 6-12) is approximately nine months in length, full time, and very intensive.

Costs: Montessori training centers are private nonprofit institutions. The basic tuition for each level is $5,500 to $6,500.

There are three levels of training:

The Assistants to Infancy Course, from birth to three years

This course is mentioned here because it is very helpful for teachers working with adolescents and is beneficial for the 3-6, and 6-12 teachers to have this information as well. The USA course is given in two summers with additional work during the year. It requires 775* contact hours of lectures, material making, and observations, plus homework, readings and papers. Required for admission: BA, BS, or permission of instructor.

Note: An overview of the ideas and some materials for this level of Montessori can be found in *The Joyful Child, Michael Olaf's Essential Montessori from Birth to Three* (See page 6.)

Primary Course, for teaching children from 3-6 years.

There are several USA courses all requiring 575* contact hours of lectures, etc. Courses are also offered in other countries. Required for admission: BA or BS degree. Recommended: Assistants to Infancy course.

Elementary Course, for teaching children from 6-12 years.

Requires 715* contact hours of lectures, etc. Required for admission: BA or BS degree and an AMI Primary course (or special summer pre-elementary course session). Recommended: Assistants to Infancy course.

Montessori Middle or High School

The elementary training is required and the others recommended, especially 0-3 because of the physical and emotional similarities of these two age groups.

* The asterisk refers to the number of hours of training BEFORE apprenticeship, practice teaching, or teaching in a class of children.

Teacher-Trainers: AMI teacher trainers must have completed the course for which they are training teachers, must have taught children at this level successfully for at least five years, must have gone through a four year full time teacher-training course, and must have been accredited for training teachers by an international board—in order to maintain the highest standards possible.

For more information on these AMI course, both in the USA and abroad, contact:

Association Montessori Internationale
Koninginneweg 161
1075 CN Amsterdam, Netherlands
or USA office: (716) 461-5920

Other USA Montessori Courses

Besides AMI, today there are AMS (American Montessori Society), NCME (National Center for Montessori Education), and many other people teaching "Montessori" through private training courses, colleges, lectures, correspondence courses, and books (such as *Michael Olaf's Essential Montessori*). Every one of these methods of learning has arisen to meet adult needs. One must match the training offered to one's particular needs and parenting or teaching plans.

For information on other Montessori training courses in the USA, contact:

MACTE (Montessori Accreditation
Council for Teacher Education)
Dr. Gretchen Warner, Ex. Dir.
University of Wisconsin
Parkside Tallent Hall
900 Wood Road, Box 2000
Kenosha, WI 53141-2000
Phone (414) 595-3335

Montessori Research
(3-12 Introduction to Montessori)

Today there are research projects of all kinds being carried out on the results of a Montessori education.

As children progress through true Montessori preschools (3-6), elementary (k-6), middle, and high schools, they become progressively more independent and responsible in action and thought. They carry out original research of all kinds and quickly outgrow a teacher's expertise in many areas. They move out into society and become thoughtful and responsible citizens much earlier than we previously thought possible, arranging field trips, social and ecological projects and movements, and apprenticeships. They develop such excellent study habits that they far surpass the level of the curriculum of traditional schools.

Educational Materials
(3-12 Introduction to Montessori)

A sparse environment of carefully chosen materials calls the child to work, concentration, and joy. A crowded or chaotic environment can cause stress and can dissipate a child's energy. As Montessori education becomes more popular more materials are produced which are labeled "Montessori" and one must be more and more careful in selection. Too many materials, or inappropriate materials can be worse than too few.

Before the age of six, a child learns from direct contact with the environment, by means of all the senses, and through movement; the child literally absorbs what is in the environment. The toys and materials in the home and school for this period of development should be of the very best quality to call forth self-respect, respect and care from the child toward the environment, and the development of an appreciation of beauty.

From age six to twelve, "the age of the Imagination," since the children produce so much—charts, models, books, timelines, maps, books, plays, etc.—the environment must be continually pared down to the essentials so that the children *continue* to create. Sensorial-manipulative materials, such as multiplication bead frames, can also be used for older children, but should be left behind as soon as the child is ready to work in the abstract.

From age twelve to eighteen, the child's education becomes more traditional: books, computers, and the tools of the place where he may be apprenticing or doing social work.

At all ages, since the adult's special interests usually lie in one or two areas of study, we must be sure to introduce him to materials and lessons in all areas, all kinds of experiences, and not limit him to our own interests.

In the words of the famous music educator Dr. Shinichi Suzuki:

What does not exist in the cultural environment will not develop in the child.

Television and Computers as Educational Tools

(3-12 Introduction to Montessori)

Of course these are valuable tools for education, but we must keep them in balance with other experiences. We would like to share a quote from the July 1997 issue of *The Atlantic Monthly*:

There is no good evidence that most uses of computers significantly improve teaching and learning, yet school districts are cutting programs—music, art, physical education—that enrich children's lives to make room for this dubious nostrum.

. . . and

"Sesame Street" . . . has been around for twenty years. Indeed, its idea of making learning relevant to all was as widely promoted in the seventies as the Internet is today. So where's that demographic wave of creative and brilliant students now entering college? Did kids really need to learn how to watch television? Did we inflate their expectations that learning would always be colorful and fun?

. . . and finally

I see a parallel between the goals of "Sesame Street" and those of children's computing. Both are pervasive, expensive and encourage children to sit still. Both display animated cartoons, gaudy numbers and weird, random noises . . . both give the sensation that by merely watching a screen, you can acquire information without work and without discipline.

Yes, the computer may be here to stay, and it certainly has its place and an important one, but it should not replace the precious time a child has to learn to create a life worth living.

As Joseph Weizenbaum, professor emeritus of computer science at MIT, told the *San Jose Mercury News*, even at his technology-heavy institution new students can learn all the computer skills they need "in a summer."

Television . . .is an anti-experience and an anti-knowledge machine because it separates individuals from themselves and from the environment and makes them believe they are living while they are only observing passively what other people decide to make them see.

—Dr. Silvana Montanaro, M.D.,

Psychiatrist, Montessori Teacher-Trainer

Maria Montessori's view on the learning child sees not so much the task of filling the mind with information, but rather of constructing the mind through activity according to inner directives and urges.

At age three to six, in the Casa dei Bambini, abstract mental processes are still being built by concrete movement and physical interaction with objects. Computers offer a level of abstraction which is of little use to these children.

For children age six and older, the computer can be a very positive part of the environment, but it is still important to decide what to do with it. Such a decision should be carefully based on the children's developmental needs and their well-being.

—Peter Gebhardt-Seele,

Physicist, Author, Montessori Teacher-Trainer

The primary danger of the television screen lies not so much in the behavior it produces as the behavior it prevents... Turning on the television set can turn off the process that transforms children into adults.

—Urie Bronfenbrenner,

Professor of Human Development,

Cornell University

Montessori At Home or At School

(3-12 Introduction to Montessori)

Using Montessori at Home: Many families, unable to enroll their children in Montessori schools are using these principles at homes to supplement the schooling of their children, to make their school studies more vibrant, to teach independence, or sometimes even to completely homeschool their children.

Montessori philosophy is an approach to living with children more than a method of teaching specific academic subjects. An excellent method for learning in schools, it is most valuable in the home where parents know and love their children better than anyone else.

Finding or Starting a Montessori School: For anyone who is interested in finding or starting a Montessori school you should be aware of the fact that the word "Montessori," is not patented and anyone can use it. The use of the word "Montessori" is no assurance of quality.

If you want to enroll your child in a Montessori school it is important that you learn what a Montessori school should be like, and then observe children working in the school you are considering. In a good school there will be a certified teacher, a full range of Montessori materials, and the children will be happy, kind, and busy on self-chosen, uninterrupted work.

There is a great need for certified Montessori teachers. Because of this shortage many Montessori schools have long waiting lists. Choose carefully; your child will be entering a second family.

PARENTING/TEACHING

When human communities were small, parenting information from friends and family was readily available, and teachers and parents were in close contact. Today all this has changed. Parenting and teaching are possibly the most important and most difficult professions on earth.

We are careful in Montessori to see each child as a new being each day, forgetting the past and seeing only the potential for greatness. We believe that this is also a good idea for looking at ourselves at the beginning of each new day. It is a lot to ask of the adult to provide everything a child needs and we believe that some time should be allotted, perhaps at the beginning of each day, to get mentally prepared for the task by praying, meditating, taking a walk. Then one is better able to take a deep breath and face the day with a feeling of being new and in the present moment. If we can balance ourselves, our other relationships and friendships, with adults and children, will be more enjoyable.

We are all parents, grandparents, teachers, children's advocates, because we care about others. No matter how much we try to be perfect we must learn to be easy on ourselves, to not waste time wishing we "had only known," but must learn to laugh, to pick up the pieces, and to begin again. We hope you continue to learn, to enjoy your roles as parents and teachers, and to share your wisdom with others.

We hope that *Essential Montessori* is helpful to you, as it is through these pages that we try to pass on what we have learned and are continuing to learn about children, families, teaching, and learning.

Age 0-6:

(3-12 Parenting/Teaching)

At this age children imitate, they literally absorb, the life around them. We can never be too kind, too respectful, too wise, to be their role models. When they are not with us, we must have the highest standard of expectation for any adults with whom they spend time.

The 3-6 Montessori environment is not called a school, but a Casa dei Bambini, or House of Children. It is very different than the traditional preschool. In order to create an authentic Casa dei Bambini, it is helpful to imagine that you are welcoming adult friends into your own inviting, comfortable,

enjoyable home.

Would you have everyone sit on a line and put their hands in their lap and close their mouths? Or would you have specially prepared interesting activities, perhaps some food, and welcome each person with a personal greeting, inviting her to make herself at home?

Would you line up chairs and tables, labeling where your guests were to sit? Or would you arrange the home with paintings, comfortable chairs, plants, soft music? If a guest in your home looked at loose ends would you tell him to get to work, or would you have a private conversation with him and offer some interesting activity?

When your guests were all settled in and having a lovely time would you interrupt them and tell them to come and sit in a circle because what you have to show them is more important than anything they might be doing?

What if a guest were tired or hungry?

In the Montessori Casa dei Bambini each child is welcomed with a "good morning" and a handshake, and then looks around and finds something interesting to do. He is treated with respect, and not corrected or embarrassed.

A Montessori 3-6 environment is truly a House of Children. Children are free to choose their tasks, ideally both inside and outside in the fresh air. If they are tired or hungry they have been shown where to rest or sleep, or how to set the table and prepare a snack, cleaning up after themselves. They are invited, but never required, to carry out a number of tasks. The adult is constantly observing and striving to meet their physical, mental, and emotional needs. And, once they have begun to concentrate on a bit of work, the adult respects this choice and concentration and does not interrupt.

The above is an explanation of the Montessori philosophy in the school and it can be adapted to the home perhaps even more easily.

At this age we give the child, who is voraciously devouring experiences, the basic elements of all future studies—biology, art, geography, geometry, math, music, and language. These are given through individual lessons on the use, by the individual child, of the materials.

Age 6-12:

(3-12 Parenting/Teaching)

This is a very stable and a more intellectual age. The 6-12 children are interested in the ways in which society functions, how it came into being, how people came into contact with others. They want to explore the past and the farthest reaches of the universe with the imagination. They want to see and understand the universe and the development of humanity. These children make incredible advances in intellectual work as they go out into society and learn to function independently in and outside school.

Age 12-18:

(3-12 Parenting/Teaching)

As in the period from 0-6, this child is going through periods of rapid growth and emotional changes. Especially in the first three years he will need more sleep, time to think, contact with nature. This is not the time to pile on intellectual work and risk causing frustration, rudeness, and the desire to escape. This is in a way a romantic age, and children respond to music, literature, poetry and drama. They can be drawn into an understanding of all of humanity through these studies, and into creations of their own as a way to explore and come to understand their own developing emotions as they pass from the stage of childhood to that of being adult.

Age 18-24:

(3-12 Parenting/Teaching)

If the needs of the person are met in the first eighteen years of life, he will be ready to become an independent adult, both physically and mentally, by age twenty-four. "Arrested Development" occurs when a child is not able to fulfill needs at the proper time.

A child who does not learn to explore society, to go to the grocery store, to find books in a public library, to interact with people other than in school and family, during that stable age of six to twelve, may have difficulty doing so during the emotional period of adolescence, be insecure about going to college, or moving out into the adult world, getting an apartment, and earning a living as an adult.

For Everything There is a Season

(3-12 Parenting/Teaching)

It is not good for children when we, parents and teachers, push them into stages that they are not ready for. But neither is it good for us to hold children back when they are ready to operate independently. Every unnecessary help is really a hindrance to development. This is true at any age, from a child who is ready to wean himself from nursing, the young child who wants to pick out her own clothing in the morning, and the teenager who decides to study the electric guitar instead of the viola. At all ages the favorite quote of Dr. Montessori is appropriate:

Please help me to do it myself!

I had always understood that Madame Montessori dispensed with discipline and I wondered how she managed a room full of children . . . On sending my little boy of three to spend his mornings in a Montessori school, I found that he quickly became a more disciplined human being . . . The pedagogical discoveries involved have required genius but the teachers who are to apply them do not require genius. They require only the right sort of training, together with a degree of sympathy and patience, which is by no means unusual. The fundamental idea is simple: that the right discipline consists not in external compulsion, but in habits of mind, which lead spontaneously to desirable rather than undesirable activities. What is astonishing is the great success in finding technical methods of embodying this idea in education. For this, Madame Montessori deserves the highest praise."

—Bertrand Russell
from "ON EDUCATION"

PREPARING THE ENVIRONMENT

Organizing the Environment

(3-12 Preparing the Environment)

In Montessori schools the teacher is often referred to as "directress," "director," or "guide," because he/she does not *teach*, but puts each child in touch with the environment, so that he can learn by exploring, following interests, repeating steps, and carrying out research. The environment is extremely important at any level.

To inspire the child we choose the best of every thing in the environment. Shelves, tables, and chairs are more durable and satisfying if they are made of wood instead of plastic. Pictures on the wall can be framed art prints, or simple posters.

Age 3-6:

(3-12 Preparing the Environment)

Children at this age often prefer to work on the floor instead of at a table—on rugs or pieces of carpet which can be rolled up when not in use. This marks the work space just as would a table. In the classroom we use a variety of colors and shades, an oriental rug

or two, and rugs with a simple horizontal stripe for using a movable alphabet, vocabulary cards, and math beads.

Materials are attractively arranged on shelves according to subject—language, math, geography, history, science, music, and art. Each piece of material has a special, permanent place so that children know where to find it and where to put it away for the next person when finished.

In the home, rather than keeping things in large toy chests or boxes, we use trays and baskets for most things. This makes finding and putting away easier and enjoyable.

Tables and chairs of the correct height are important at every age to support the body in good posture while the child reads, writes, works. As the child grows, the table and chair should be changed to support good posture at every age.

Age 6-12:

(3-12 Preparing the Environment)

At this age the child engages in more individual and group projects and needs a place to keep ongoing projects such as clipboards, and special cubbies or shelves. At this age the child spends more time "going out" into the world, for field trips such as shopping at the grocery store for a cooking project, getting office supplies for the classroom, interviewing subjects for history projects, or visiting museums, etc. Whereas at age 3-6 the world was brought into the *house of children*, now the child begins to go out into the world.

Environments in The Home

(3-12 Preparing the Environment)

There are two important things to keep in mind in organizing a child's environment in the home.

(1) Have a place in each room for the few, carefully chosen child's belongings: By the front door a stool to sit on and a place to hang coats and keep shoes. In the living room a place for the child's books and toys—neatly, attractively organized. Think out the activities and the materials for all living spaces and arrange the environment to include the child's activities.

(2) Don't have too many things. A few shelves with baskets or trays holding toys that are being used at the moment are sufficient. It is a good idea to rotate—taking out those books and toys that have not been chosen lately and removing them to storage for a time. Children grow and change and they need help to keep their environment uncluttered and peaceful.

The Environment and the Mind

(3-12 Preparing the Environment)

Everyone at every age is affected by their environment. These habits of organizing the environment reduce stress and aid the development of an organized, efficient, and creative mind. The Chinese art of placement or Feng Shui, teaches that clutter, even hidden under a bed or piled on the top of bookcases is bad for a person.

A child who joins in the arrangement of an environment, at school or at home, and learns to select a few lovely things instead of piles of unused toys, books, clothes, etc., will be aided in many ways with this help in creating good work habits, concentration, and a clear, uncluttered, and peaceful mind.

AGE 3-6, FAMILY LIFE

The child can only develop by means of experience in his environment. We call such experience work.

—Dr. Maria Montessori

The First Six Years

(3-12 , Age 3-6 Family Life)

Many people throughout history have noted the importance of the first six years of life.

A child becomes fully a member of her particular culture and family group by this age. She takes in everything she sees, hears, and feels in her environment. A child who loves herself and feels safe in the world, who has experienced the joy of making a contribution to her group, and who has fallen in love with work, learning, and loving, is fortunate indeed.

Every child, by instinct, wants to learn and grow to the limit of his abilities. Before the age of six he does this by imitating those around him. To help him we must carefully prepare the physical and social environment, for this is the way culture, and moral and spiritual beliefs are passed on.

Participating in Family Life

(3-12 , Age 3-6 Family Life)

Family work in Montessori schools is known as "Practical Life Activities". It is the single most important area of a Montessori education at any age. Allowing the child to participate in the life he sees going on around him is an act of great respect for, and confidence in, the child. It helps him to feel important to himself and to those around him. He is needed.

We can empathize if we think of the difference in our feelings for a dinner guest in our home who is completely served and waited on, or for one who is welcomed in our kitchen to talk and to laugh while we prepare the meal together.

The three main areas of "Practical Life" activities are (1) care of the environment—cleaning, sweeping, washing clothes, gardening, etc., (2) the care of the person—dressing, brushing teeth, cooking, setting the table, etc., and (3) grace and courtesy—walking carefully, carrying things, moving gracefully, offering food, saying "please" and "thank you" and so on.

Children have always shown us their interests in all three areas by pretending to cook, clean, take care of a baby, have tea parties, carry out adult conversations, but when given the chance they would much rather be doing the real work of the family and community along with others.

Instead of "making-believe" a child would almost always prefer to remove dust from a dusty shelf with a real child-sized duster, pour out real herb tea or juice from a porcelain tea pot, or pound a real nail into a piece of wood to make a simple bird feeder that the family will use. And he would rather be mixing a bit of flour and egg with a real hand mixer to help with the family breakfast instead of always playing at cooking.

The Child's Purpose

(3-12 , Age 3-6 Family Life)

The child's reason for, and way of, working is different than ours. We adults will usually choose to do things the most efficient and quickest way. A child, on the other hand, is working to master the activity and to practice and perfect her abilities. She may scrub a table for hours, but only when she feels the urge. She may sweep the floor every morning for two weeks and not again for a month - because she will be occupied with mastering something else. If we expected her to keep carrying out every new activity every day, there would be no time for sleep.

There are many physical, emotional and mental values of this work. Through these activities the child learns to be independent. This is important because there can be no intelligent choice or responsibility at any age without independence in thought and action. She learns to concentrate, to control muscles, to focus, to analyze logical steps and complete a cycle of activity.

Practical Life Tasks As the Foundation for All Later Work

(3-12 , Age 3-6 Family Life)

It is not uncommon for Montessori practical life exercise to be misunderstood. I have heard parents exclaim in dismay that their child is "wasting time cleaning in her new Montessori school when she should be doing math!" However math and all other intellectual work requires the ability to move carefully, to focus, to complete sequential steps, to concentrate, to make intelligent choices and to persevere in one's work. This is exactly what is learned during practical life work. As a result of periods of time spent concentrating on such a task a child becomes calm and satisfied and, because of this inner peace, full of love for others.

It is because of the great work in "practical life" that children in Montessori homes and schools are able to succeed so well in all other areas of study.

The most important discovery is that a child returns to a normal state through work. Countless experiments made upon children of every race throughout the world have shown that this is the most certain datum that we have in the field of psychology and education. A child's desire to work represents a vital instinct since he cannot organize his personality without working: a man builds himself through working. There can be no substitute for work, neither affection nor physical well-being can replace it. A man builds himself by carrying out manual labor in which he uses his hands as the instruments of his personality and as an expression of his intellect and will help him to dominate his environment. A child's instinct for work is a proof that work is instinctive to man and characteristic of the species.

. . if we showed them exactly how to do something, this precision itself seemed to hold their interest. To have a real purpose to which the action was directed, this was the first condition, but the exact way of doing it acted like a support which rendered the child stable in his efforts, and therefore brought him to make progress in his development. Order and precision, we found, were the keys to spontaneous work in the school.

—Dr. Maria Montessori

The Needs Of The Parent
(3-12 , Age 3-6 Family Life)

The working parent does not always have the time to include the child in everything and should not feel badly about this. In the Montessori class the teacher is trained to do just that, and this is her main work during the day with no other responsibilities. We must be easy on ourselves in the home and plan a time when we will enjoy the work as well as the children.

It may be slow in the beginning, as we "follow the child". Just begin with one thing, perhaps putting the napkins on the table for a meal, and gradually add to the tasks in which the child can participate, and gradually take over.

One of the lessons we can learn from the child is how to bring our whole selves, mental, physical, and spiritual, to the task of the moment, to focus on each thing we do, and to enjoy each moment of life.

AGE 3-6, TOYS & GAMES

Active Play
(3-12 , Age 3-6 Toys and Games)

It takes work on the part of the adult to withstand the temptation to let the child spend hours in front of the television or the computer, but it is well worth the effort to support the natural development of the child. Television accustoms the child to be a passive receiver of information rather than an active questioner or researcher. And the intelligence of computers does not hold a candle to the kind of creativity inborn in the human being.

We have to understand that the world can only be grasped by action, not by contemplation. The hand is more important than the eye. It is the hand that drives the subsequent evolution of the brain. I have described the hand when it uses a tool as an instrument of discovery. We see that every time a child learns—to lace his shoes, to thread a needle, to fly a kite or to play a penny whistle. With the practical action there goes another, namely finding pleasure in action for its own sake—in the skill that one perfects by being pleased with it. This at the bottom is responsible for every work of art, and science too: our poetic delight in what human beings do because they can do it. The hand is the cutting edge of the mind.

—*Jacob Bronowski*
The Ascent of Man

The Senses
(3-12 , Age 3-6 Toys and Games)

The young child is vividly aware of the world, taking in impressions through all of her senses. It is also the time of life when lifelong preferences are formed. If we want to lay the groundwork for the child's later ability to create an organized, peaceful and calming, but stimulating, life-supporting, and beautiful environment, we must provide just such an environment now.

This is the reason we take special care in providing toys made of a variety of lovely, natural materials for the young child, interesting toys rich in variety of weight, color, texture, and purpose, of the best quality available. We make sure these toys engage the child's intelligence as well as his body.

Toys
(3-12 , Age 3-6 Toys and Games)

There are special toys or *sensorial* puzzles in the Montessori 3-6 class, such as the "pink tower", the "color tablets", and the "sound boxes", which give very clear experiences of important concepts such as "large and small", "hot and cold", "loud and soft" and so on. These *sensorial materials* are not necessary in the home, where parents can find other ways of introducing these experiences in the daily life of children—feeling the temperature of the bath water, exploring tastes while baking, and color or size with toys, etc.

Whether a toy is a "puzzle toy" with a specific way of using it, or an "open-ended toy" such as blocks and dolls, the child wants to know the procedures connected with it. We can show her where the toy is kept when it is not in use, the way of carrying it, and the basic possibilities for its use.

Just as a child is eager to know the exact techniques for using a kitchen or woodworking tool, a gardening tool, or the technique of playing a musical instrument, she wants to know the exact ways to use "puzzle toys". We would be doing a child a disservice if we allowed her to use anything—blocks, a violin bow, a hand mixers—as a hammer, for example. This does *not* stifle creativity, but facilitates it!

Playing with open-ended toys, such as dolls, blocks, art materials, and so forth, is made infinitely richer by the child's knowledge of exact techniques in handling any toys or materials.

Through the use of all good materials the child learns how to think, to concentrate, to complete a train of thought and a cycle of activity, and to solve problems. She learns to bring the use of her body and especially her hands under the control of her will, to be self-disciplined. This is the foundation for the creativity of a professional artist or composer, and for the creativity of a child at any age.

Cooperative Games
(3-12 , Age 3-6 Toys and Games)

Many social and educational values ill prepare a child for later life. Instead of teaching children how to work together, to help each other, to consider the good of the other person or the group as well as oneself, they often foster only competition and winning. This is a pernicious habit.

In Montessori classrooms children learn the most valuable kind of socialization—cooperation. In the home, or in the classroom, cooperative games helps to lay this groundwork. In other games we find that competitive play often stifles unity. Most competitive games cause players to feel isolated or left out. The action is secretive and the results can be hurt feelings or arguments. In cooperative games, children and adults feel good about each other because they enjoy sharing, helping each other, and making joint decisions. In short, the challenge shifts from defeating each other to helping each other.

After a group of children or a family learns to play cooperative games, it becomes easy to change the rules of any other game to make it less competitive. We consider this real 'socialization' and preparation for positive interaction throughout life.

An Introduction to Later Academic Studies
(3-12 , Age 3-6 Toys and Games)

In the following pages you will find ideas for introducing the child to the world. We do not

believe in pushing a child, but we believe strongly in providing an environment rich in all areas of learning so that the child can choose, from his own intuition, what he is ready to learn. Young children show an amazing interest in a wide range of subjects.

A rich environment creates interests and extends the child's experience, widening her grasp of such things as music, art, history, geography, science, language, and math. Maria Montessori understood the child's built-in receptiveness to all these areas of interest and found that the young child could comprehend what was considered far beyond a child's reach, given the right environment, the right stimuli, and the right equipment.

The adult's challenge is to be sure that the environment offers all of the key experiences necessary for the laying of this foundation. Rather than relying on verbal lessons, TV, or videos (or other examples of passive learning) because the subject is academic, we rely on the same abilities developed in the areas of practical life and good toys. We create an environment rich in experiments, games, materials, and books which the child can select as the interest arises, providing experiences of hand and mind working together for an intelligent purpose.

AGE 3-6, THE EARTH

It is not enough for the teacher to restrict herself to loving and understanding the child; she must first love and understand the universe.
—Maria Montessori

Interest in and love for the study of astronomy, earth, ecology, physics, and chemistry can all begin now when the child is the most interested in new experiences, when she literally absorbs everything in the environment.

The first lessons about Earth come from nature—experiences of the sun and wind, playing in sand and water and mud, seeing the sun rise and set, watching the stars at night, visiting the seashore, and the child's own collections of rocks and minerals.

Motor-Sensorial Experiences
(3-12 , Age 3-6 Toys and Games)

We do not give long verbal explanations since the child is at the motor sensorial period of life. Not until the age of six or seven when the imagination reaches beyond the limits of the senses, is the child interested in explanations over hands-on experiences.

At this age we give what are called *sensorial keys*—rocks, globes, puzzle maps, and land forms, pictures of the sun, moon, planets, and a few constellations and cloud formations, and only the most simple language to go along with the experience with these materials.

It is not until the age of six and beyond, when the child has a different kind of mental approach to learning which is centered around the imagination, that we give explanations and details about subjects which must be studied with the imagination, such as planets, and the inside of the earth, and so forth.

The Solar System
(3-12 , Age 3-6 Toys and Games)

Because the lessons in Montessori always go from the general to the specific we give the child at this age a sensorial experience of the solar system with simple mobiles and puzzles, then of the earth with globes, puzzle maps, pictures and books. Even in Montessori infant communities we find solar mobiles and rock collections.

Globes and Puzzle Maps
(3-12 , Age 3-6 Toys and Games)

A globe is probably one of the most important pieces of material to have in the home. The past and present meet when we look for countries where plants or literature originates (the tulips from the mountains of Asia by way of Holland, the Bible from the Middle East, for example). It can be referred to in a moment when friends send postcard during a trips, or to find different countries in the news. When we eat rice with chopsticks, or tacos, or hear Irish music on the radio, we can show the child where they came from.

Puzzle maps give practice in recognizing the shapes of continents, and oceans. They combine the child's need for movement and shape recognition with developing awareness with the earth.

Land Forms
(3-12 , Age 3-6 Toys and Games)

Children love to dig and pile sand—forming islands, lakes, peninsulas, capes, and other land and water forms, at the beach, out of sand or mud. In class they form clay land and water forms in small pie pans. They enjoy knowing the names and pouring water and maybe floating little homemade walnut-shell boats on the water.

Ecology
(3-12 , Age 3-6 Toys and Games)

This is not the age for focusing on all of the problems which are besetting Earth. Children at this age naturally feel a oneness with all of creation and it can cause pain or a shutting-down to tell them of problems too early. Instead we focus on their love—of beauty, and of caring for objects and of knowledge and language. We give them the sensorial experiences of rocks, land forms, oceans, clouds, stars, lakes, and the visual and tactile possibilities to work with them by means of puzzle maps. And then we give the names. All of this experience and knowledge leads to a natural concern and responsibility at a later age because children "love what they know."

Science Experiments
(3-12 , Age 3-6 Toys and Games)

The earth was formed by principles inherent in simple physics and chemistry experiments. We give these experiments to children now in a motor-sensorial way. This is not the time for a lot of words and explanations. Instead we place in the environment simple science materials for the child to play/work with as much as she desires, in that way absorbing the basic principles which will lead to later interest and study of earth sciences. Children at this age love working with water, magnets, batteries, candles, and other *real* physics materials, each a *key* to a basic physical law.

One experiment usually found in Montessori 3-6 classrooms is called "sink and float". For this experiment, we have a tray containing a box of objects, a vinyl mat or small towel to work on, a clear glass bowl, a pitcher for bringing water to fill the bowl, a bucket for taking the water to the sink when the work is finished, and a small cloth for drying everything when the experiment is finished. We show the child how to carefully place one object into the water, and to observe if it sinks or floats. We make one group, on one side of the bowl of those objects which sink and another on the other side of those objects which float. We do not talk or explain this phenomenon from an adult point of view, we give no labels or language, but let the child ponder, and repeat the experiment whenever she is interested. It is not uncommon for the child to carry out the activity, carefully dry everything, repeat and repeat these steps, as a deep and private understanding of the physics principle grows in her. It is only after the child has had some experience that we introduce the terms "sink" and "float" if the child does not know them yet.

Lessons
(3-12 , Age 3-6 Toys and Games)

Although videos and television have their place, they are not the best way to learn at this age. Imagine the difference between standing on a hill, with the wind in your face, watching the sun go down at the end of the day—and watching a sunset on a TV screen. Young children are learning with all of their senses, and experiences that are multi-sensorial stay with them for a lifetime.

Successful lessons consist of a quiet demonstration of a piece of material—a puzzle, an experiment, which can be carried out by the child at will as many times as there is interest. Modern brain research shows that young children use the visual and auditory parts of the brain at different times. Demonstrating and explaining an activity at the same time interrupts the ability to concentrate and focus. Dr. Montessori did not know of this brain research, but she observed over and over the difference between the attention of a child who is being shown a lesson silently, and one who was being asked to listen and watch at the same time.

Art and Language
(3-12 , Age 3-6 Toys and Games)

One of the most important parts of learning is being able to express an interest through art, music, language, or in some other tangible way.

Children love to create original art connected to puzzle maps, and the easiest time to learn the

names of colors, shapes, continents, oceans, rivers, etc. is before age six, when a child wants to handle everything and learn what everything in his environment is called.

Many of us have been astounded at the young child's ability to learn the names of continents, countries, flags, land forms, kinds of dinosaurs, kinds of dogs, etc. This is not surprising as the child under the age of six is in the strongest "sensitive period" for learning language he will ever experience. This child will learn thousands of words if he has a sensorial experience for them.

I live in heaven. My home is a sphere that turns around the sun. It is called Earth.

—Dr. Maria Montessori

AGE 3-6, PLANTS & ANIMALS

Solicitous care for living things affords satisfaction to one of the most lively instincts of the child's mind. Nothing is better calculated than this to awaken an attitude of foresight.

—Maria Montessori

An atmosphere of love and respect for life is the best foundation for the study of plants and animals. This begins in the home as the child absorbs the family's attitude toward insects, trees, house pets, and other plants and animals.

The most impressionable lessons come from first hand experiences of plants and animals; nothing can substitute for walking in the woods and listening to birds, looking for shells on the beach, watching the daily growth of a flower in the garden.

Nature Table or Shelf

(3-12 , Age 3-6 Plants & Animals)

A little table or shelf, in the home or classroom, dedicated to a changing array of beautiful objects from nature, is a delight to children. Some suggestions are a fallen nest, a rock, fossils or shells, leaves, a plant experiment (from the biology curriculum for the 3-6 class).

It is important to keep this area very clean, beautiful, and constantly changing. A little tray with a magnifying glass could be kept on the nature table for closer observation.

In the Montessori classroom a bucket and sponge and a small drying towel are kept on a tray under or near the nature table and one of the favorite activities is to carefully clean the table and the items on the table. This gives the child the feeling of really caring for the beautiful objects and not just looking at them.

Plants

(3-12 , Age 3-6 Plants & Animals)

It is important for a child to spend some time in the outdoors experiencing nature every day—in all kinds of weather and during all of the seasons. Flower arranging is an important part of the ritual of beginning the day in many Montessori classrooms and can be done in the home. A selection of interesting tiny vases of different sizes and shapes, from different countries is important.

Also a selection of handmade cotton doilies makes this ritual very special. Having these flower arrangements on the classroom tables, even if they consist of only one small flower or fern in a vase, brings the child's attention to the beauty and variety of nature as he goes through the day.

If you are planning an outdoor environment for children, be sure to include a space for wild specimens. Some of the best biological examples of leaf shapes and attachments, and so forth, can be found on wild plants such as dandelions and thistles.

The young child wants to know exact names of everything. Not just "flower" but "California poppy", and descriptive words such as "orange", "small", and "soft." Exposure to plants and animals initiates many important discussions.

Grass, leaves, wildflowers, or cultivated flowers all make ideal art materials when they have been preserved in a flower press. We have kept one going in our home for years. We always have flowers and leaves in the press and on a plate next to the press, ready for decorating birthday cards, or including in letters.

Providing garden tools and a small wheelbarrow for the child so that she can help to carry grass cuttings or anything else which needs to be transported is an excellent way to involve the child with the yard work.

Even one pot with one plant is better than nothing when there is no garden.

In a Montessori school there is a place for every tool and the children are shown how to wash and put away the tools, giving a great feeling of satisfaction, completion, and independence.

Beautiful pictures of plants and flowers can be hung on the child's wall and you may be surprised at a child's preference for nonfiction books about nature when she has been kept in touch with nature.

Animals

(3-12 , Age 3-6 Plants & Animals)

Animals are best observed free in nature. Hang a bird feeder just outside the window and show the child how to sit quietly so that the birds won't be afraid. Binoculars give the child a feeling of participating in the birds' activities, and allow the child to watch birds from a distance.

If animals visit the classroom, we first prepare for all of the animal's needs ahead of time—comfort, exercise, food, warmth, gentle handling—and to have the visit last only as long as the guest is comfortable, the consideration for the animal being more important than the satisfaction of our curiosity.

One of the lessons I learned to give in my first training course in London was to pick up and hold a cat. Children are delighted to learn the tiny details of caring for animals, and we should not expect them to automatically know how to treat animals without having had careful, hands-on lessons.

Hatching cocoons indoors is a truly magical experience for the child, and a good way to introduce the amazing phenomenon of life cycles in different animals, such as the tadpole to frog, and the difference between placental and other mammals.

Because animals are less accessible to the children than plants we suggest, after the firsthand experience of a few animals, for example cats and dogs, more models, pictures, and books about them. We can give them simple picture books, beginning reading books, and even advanced reference books.

Studying humans, for example the hands and senses, focuses attention on the similarity and differences between humans and other animals—and to the needs of all.

AGE 3-6, PEOPLE

Madame Montessori,

Even as you, out of love for children, are endeavoring to teach children, through your numerous institutions, the best that can be brought out of them, even so, I hope that it will be possible not only for the children of the wealthy and the well-to-do, but for the children of paupers to receive training of this nature. You have very truly remarked that if we are to reach real peace in this world, and if we are to carry on a real war against war, we shall have to begin with children and if they will grow up in their natural innocence, we won't have to struggle, we won't have to pass fruitless idle resolutions, but we shall go from love to love and peace to peace, until at last all the corners of the world are covered with that peace and love for which, consciously or unconsciously, the whole world is hungering.

- M. K. Gandhi, 1943

Gandhi's desire has come to pass. Today there are as many public and private Montessori classes, for children of all kinds. Montessori teachers cherish a mix of children of various nationalities, abilities, and ages—a natural social group. This provides an enriching social and educational environment, and prepares children to function successfully in the real world.

There are Montessori schools, and Montessori families on all of the continents who are often in touch with and learning from each other. This is an important element in the child's world view, and in developing a concern for people all over the world, and people of all levels of society.

Teaching Geography

(3-12 , Age 3-6 People)

We are very fortunate in the United States to be living in a melting pot of peoples from all over the world. Even the Native Americans came from somewhere else. This wonderful living lesson in geography teaches us that the only difference

between us is "when" we came and why.

The study of geography and of history revolves around the needs of humans for such basic things as food, housing, a means of transportation, clothing, and the mental and spiritual needs for work, play, and worship. In the early years children are given concrete examples, stories and pictures of people all over the world, in order to build a foundation in geography and history.

The first lessons center around how people have developed a culture because of the place where they live. How and why are the clothes, houses, food, and transportation of a group of people living north of the arctic circle different from those of a group of people living near the equator? This gives a healthy, non-judgemental, non-ethnocentric, non-nationalistic, basis of exploration of peoples of the world.

The seeds of the study of history are given through experiences, such as ethnic foods and music, and through objects, pictures, and books. We try to include examples that will provide a point of reference in later history studies. Later children will use these impressions taken in during this time of the "absorbent mind", the age when they literally become all of the impressions taken in from the environment, to make sense of the history of the world.

Globes, Maps, and Flags
(3-12 , Age 3-6 People)

The more easily available a globe and map is to a child, the more often it will be referred to and the more geography will be learned in a very simple and enjoyable way. In providing experiences for the child we move from the general view to the specific—from the whole earth to continents to countries to counties, then towns and neighborhoods.

I remember one day when my oldest daughter, who was four and in a Montessori school, was watching me pour some beaten eggs into a skillet. She said "That looks like Africa!" One of the older children (ages six and eight) who were with her asked, "What is Africa?" to which Narda replied "It is a continent." The other friend asked her what a continent was and Narda said, with a little bit of exasperation "Come with me." She then got out the globe and sat the older girls down for a very enjoyable lesson on the names of the continents and countries of the world. There is no reason to put off geographical studies until later grades. Children want to have an idea of where they live on a globe of Earth at very young ages.

Since this is the time when children love to do puzzles, and to know the names of everything in the environment, Dr. Montessori followed the children's interests by creating puzzles of real value. Puzzle maps have been used in Montessori 3-6 classes for many years. Children easily "absorb" and memorize the relative sizes, the shapes, the location of continents and countries of the world in this motor-sensorial time of life. They delight in learning the names of every country and capital, the states, the rivers and mountains. These impressions and names, stay with them forever.

We also give national songs, costumes, pictures of state birds, flowers, flags, sometimes even state songs. We are very careful not to give the impression that we are superior in any way to other countries. Each culture has its own strengths and weaknesses.

Flags of the world have a special attraction to children. Montessori schools always have a set of the flags of the world. A child might come in one morning with a story about India. She will gather all of the objects related to India in the classroom - a folder of pictures of Asia, the map of Asia with the puzzle piece of India, maybe a brass pitcher or statue from India, the flag of India, and so on. Often other children will join in the search, and maybe remind her of a song or poem from this country.

Teaching History
(3-12 , Age 3-6 People)

In the "Earth" section you will find materials for teaching the concepts of solar system, constellations, and other subjects which will tie in with the later studies of history. At this age we give bits of information, stories from the past, experiences of place. These will all come together when the child reaches the age of six or seven or so and can reach back into time with the imagination. That is the time to give the many timelines for which Montessori schools are famous.

Biographies of famous people are important pieces of the puzzle which will create the child's ultimate understanding of the history of the world. The teacher begins this with simple stories about herself.

I remember one story I told over and over. It was about the experience of getting up one morning, going through the living room to fix breakfast and seeing our horse staring in at the living room window at me. That's all, no plot, just a true experience and the children loved it—asking for me to repeat the little story over and over. This is followed by stories of famous people, especially as little children.

The final element of history and geography in the Montessori classroom, is the interconnectedness of humans with the earth, the plants and animals, and with each other. All of the bits of information are given with this final understanding in mind.

The mental construction of geography and history will come together in a different way for each child. It is our responsibility to arrange for many various and interesting experiences which inspire the child to want to know more.

AGE 3-6, LANGUAGE

The most important preparation of the environment for successful development of spoken and written language in the child is the language environment of the home. It is never too early to speak clearly and precisely to the child. In fact the language of the caregivers in the first six years of life will literally form the spoken language of the child. Reading aloud to the child gives the message that reading is fun for everyone, and concepts and vocabulary words will be experienced which would never come up in spoken language.

Reading and writing should not be *taught* to a child before age six or seven, but, given the sensorial experiences of appropriate materials a child of normal intelligence will quite naturally *teach herself* to read and write sometimes as early as three or four years of age.

Here is a quote from Dr. Montessori about her experience in the first Casa dei Bambini, "house of children", in Rome in the beginning of this century:

Ours was a house for children, rather than a real school. We had prepared a place for children where a diffused culture could be assimilated from the environment, without any need for direct instruction . . . Yet these children learned to read and write before they were five, and no one had given them any lessons. At that time it seemed miraculous that children of four and a half should be able to write, and that they should have learned without the feeling of having been taught.

We puzzled over it for a long time. Only after repeated experiments did we conclude with certainty that all children are endowed with this capacity to absorb culture. If this be true—we then argued—if culture can be acquired without effort, let us provide the children with other elements of culture. And then we saw them 'absorb' far more than reading and writing: botany, zoology, mathematics, geography, and all with the same ease, spontaneously and without getting tired.

And so we discovered that education is not something which the teacher does, but that it is a natural process which develops spontaneously in the human being. It is not acquired by listening to words, but in virtue of experiences in which the child acts on his environment. The teacher's task is not to talk, but to prepare and arrange a series of motives for cultural activity in a special environment made for the child.

My experiments, conducted in many different countries, have now been going on for forty years (ed. Now eighty-plus years), *and as the children grew up parents kept asking me to extend my methods to the later ages. We then found that individual activity is the one factor that stimulates and produces development, and that this is not more true for the little ones of preschool age than it is for the junior, middle and upper school children.*

- Maria Montessori
from *The Absorbent Mind*

It is no accident that some children are good at reading and writing and others are not, that some find joy in this work and for others it is tedious. The preparation for enjoying the exploration of language in life begins before birth as the child responds to the voices he hears even in the womb.

For success in language a child needs confidence that what she has to say is important, a desire to relate to others, real experience on which language is based, and the physical abilities necessary in reading and writing. There are several things that we can do to help.

We can listen and talk to the child from birth on, not in baby talk, but with respect and with a rich vocabulary. We can provide a stimulating environment, rich in sensorial experiences and in language, providing a wealth of experience, because language is meaningless if it is not based on experience. We can set an example and model precise language in our everyday activities with the child. If we share good literature, in the form of rhymes, songs, poetry and stories we will greatly increase the child's love of language.

Language of the Child's World
(3-12 , Age 3-6 People)

The most important specific vocabulary words, and the most useful to the child, are the names of the everyday objects in the her home environment—clothing, kitchen objects, tools, toys, and so forth. Your child will be thrilled to know the names and to be able to use them correctly.

Vocabulary Cards—Speaking
(3-12 , Age 3-6 People)

If you ever visit a Montessori classroom you will notice that there are many vocabulary books and cards. It is natural that, during this intense interest in words, children be given pictures of everything—to practice and improve their new abilities. These books and cards are valuable for the home. There are many selections in *The Joyful Child* (See page 6.) appropriate for this age.

Experience First
(3-12 , Age 3-6 People)

However, if you look closely, you will see that the teacher is making sure that experience precedes vocabulary and pictures. She will introduce real vegetables before vegetable cards, real actions before verb cards, real music before composer picture and labels, real shells before shell cards, and so on. In this way the child learns that language is connected to the real world.

Pre-Reading and Writing
(3-12 , Age 3-6 People)

There are three main areas where we can help children prepare for reading and writing:

(1) Physical skills—balance, using the hands, coordination of eye-hand work, learning to concentrate and focus, recognizing sizes and shapes, working with knobbed puzzles, crayons and pencils, and practice in speaking.

(2) Mental skills—absorbing and using language, learning the "sounds" that each letter makes (not the 'names' of the letter) and playing games to break up words into sounds - the "I spy" game.

(3) Social—living in homes where people talk at the table, sit down and have conversations, and read, instead of watching television or "learning language" on a computer.

The I Spy Game
(3-12 , Age 3-6 People)

When your child has built up a knowledge of the names of objects by pictures, introduce the I Spy Game. Pick up an object, a ball. Say "I spy something in my hand that begins with (the sound) 'b' " (not the name "bee"). Do this with several objects, maybe the same ones for weeks. Use pictures too.

Later go on to sound out the ending sound and finally the whole word. This is similar to spelling but we say isolated sounds, not letters. "Lamb" would be sounded out as "l-a-m". We are not teaching spelling, or reading, we are helping the child become aware of the sounds of language, and having fun, both very important for learning language. You will be amazed at the ability of a child to later decode words when he has had this game as preparation.

Reading and Writing
(3-12 , Age 3-6 People)

Maria Montessori didn't expect young children to learn to read and write at first but she soon learned that this was the "sensitive period" in a child's life for knowing the names of everything, including the sounds of letters, and for touching and feeling. So she offered them letters made of sandpaper to trace with their fingers while saying the sound.

The children later spontaneously "exploded" into writing. Writing came first, months before reading, just as naturally as speech.

Since 99% of written language is in lower case letters, you will be doing a child a favor to begin with these ("a" and "b", not "A" and "B"), and with the sounds instead of the names of the letters.

To meet the child's need to touch and feel, and to learn the names of everything, Dr. Montessori used sandpaper letters. The child feels and says the sound, repeating many times. Sandpaper letters for the Montessori class are very expensive, but it is possible to make them at home.

For those who were not ready physically to write with a pencil, but who were mentally ready, she prepared cutout movable letters for their work. This 'movable alphabet' is still used in Montessori schools today.

Above all, this work must be offered in a spirit of enjoyment and not imposed. Adults really have to forget the tedious process they might have gone through to learn to read, and to approach it in a spirit of fun and ease.

Vocabulary Cards - Reading
(3-12 , Age 3-6 People)

When a child first begins to recognize the sounds of letters in groups - words - he is doing this silently in his head. Saying these words aloud complicates the process, especially if someone is listening. So a child is not asked to read aloud in the beginning.

To give him practice with this new, exciting single-word skill, the child is given groups of picture cards, pictures of objects for which he already knows the names. He reads each label and matches it to the picture.

Then, if the name of the objects have been written on the back of the picture cards, the child can turn the pictures over to see if he has placed the labels correctly.

Children love reading and checking their own work and will repeat over and over again till they get it exactly right. Hundreds of meaningful words can be added to the child's reading vocabulary in this way.

Just as with giving spoken vocabulary, the most important words to give the child when beginning to read are the labels of the common objects in the home. Then other objects of interest such as shells, cats, toys, etc.

Reading Books
(3-12 , Age 3-6 People)

There are many good nonfiction books for the early reader throughout this publication, and just as children love to learn the names of real things in the environment, they love to learn about the real world through books. Books which have been read to them often can sometimes make the best first reading books.

Exploring Language
(3-12 , Age 3-6 People)

Sometimes we adults finds it hard to believe that children can love grammar, but they do. It is exciting for a child to realize that words written on a slip of paper which tell her to DO something, are "Verbs". Children love to enact them for each other and guess what they are.

If we help our children with the physical preparation of the body and hands, listen carefully to our children when they talk to us, set an example of loving to read, and approach giving our children language with the same spirit of fun with which we play other games, we will be doing the most important things to prepare for a successful life of reading and writing.

AGE 3-6, MUSIC

If you can walk, you can dance.
If you can talk, you can sing.
—Zimbabwe Proverb

Singing
(3-12 , Age 3-6 Music)

Humans are born singing. As soon as a child can focus on the mouth of the mother he is studying how lips move and how sounds are made. When he begins to make intentional sounds and the adult imitates them, the first duet is born. Let us help the child continue with this joyful human creation.

There is no such thing as a nonmusical child, there are just nonmusical adults who did not get this practice as children. Songs give children a way of expressing emotions, and the very act of singing is a physical release. I have always watched for the casual, unintentional singing in class, knowing that it is a positive sign. In our home, hearing our son sing in bed as he went to sleep at night was a reassuring sign that his life is in balance. We do not need beautiful voices to model singing for children.

Singing also gives practice in language, new words, poetry, and historical and other cultural information.

In a Montessori class, where children work individually instead of having group lessons, the teacher will sing a song, make music, dance, at any time during the day with two or three children who aren't busy. Others may join in as they please. Any child can make music whenever she feels like it.

Listening to Music
(3-12 , Age 3-6 Music)

Just as beautiful speech comes from years of listening, music appreciation and accomplishment comes from years of listening to music.

Songs, folk, ethnic, and classical music played on real instruments, experimentation with good percussion instruments, is ideally is a part of the daily life of every child.

We can help a musical ear's development by being careful to eliminate background sound—TV, radio, constant random music—so that the sense of hearing is ever alert and not "turned off" by too much auditory input.

Composers
(3-12 , Age 3-6 Music)

Stories of composers, especially stories about when they were children, are always interesting and important for young children. They teach that famous composers did not just spring full-grown into being, but were regular children who became interested in writing down the music in their heads.

Musical Instruments
(3-12 , Age 3-6 Music)

It is important for children to realize that music is always the result of body movements. Even if there are natural sounds, children need to understand that music is produced by human beings using various muscles of the mouth, hands and arms.

They should know how many different instruments there are and should have the opportunity to witness how musicians control their gestures so as to obtain different musical sounds.

- Dr. Silvana Montanaro

To help a child experience this important part of a good education, we recommend real percussion instruments from different countries of the world, as well as Western classical instruments, for quality, variety, and beauty of sound, and for the connection to different cultures.

Listening to a heartbeat with a stethoscope, then tapping out the rhythms of the children's names with the instruments is a good introduction to rhythm.

Children at this age are very open to learning the techniques of instruments considered very difficult—such as piano or violin—when they have a system of learning, such as Suzuki, which bases its teaching on the natural development of children.

A new form of educational system will not appear until we give serious consideration to the fact that we have a "double mind." Children at any age must be offered a balanced experience of VERBAL and INTUITIVE thinking to help develop the great potential of the human mind. The results will not only include better functioning of the brain but also greater happiness in personal and social life.

In Western education, we tend to separate them, because many of the things the right hemisphere (intuitive) is able to do are not highly valued in our civilization. So from a very young age, children learn not to express themselves completely with that hemisphere because they haven't been urged to give much importance to body-movement in dancing or in singing, drawing . . . all the arts. In Eastern civilizations, however, greater importance tends to be given to the intuitive part of the brain; the logical hemisphere is considered irrelevant in solving the real problems of our existence.

It is a source of great hope for our immediate future that the most advanced human beings of both cultures are uniting in the recognition that we need each other to become complete and that we have a lot to share.

- Dr. Silvana Montanaro, M.D.

What does not exist in the cultural environment will not develop in the child.

- Dr. Shinichi Suzuki

AGE 3-6, ART

The truth is that when a free spirit exists, it has to materialize itself in some form of work, and for this the hands are needed. Everywhere we find traces of men's handiwork, and through these we can catch a glimpse of his spirit and the thoughts of his time.

The skill of man's hand is bound up with the development of his mind, and in the light of history we see it connected with the development of civilization.

—Dr. Maria Montessori

Art is a way of approaching life, of moving and speaking, of decorating a home and school, of selecting toys and books. It cannot be separated from every other element of life. We cannot "teach" a child to be an artist, but, as Dr. Montessori says, we can help him develop:

An Eye that Sees
A Hand that Obeys
A Soul that Feels

Art Materials
(3-12 , Age 3-6 Art)

Children benefit from having a variety of art materials available to them at all times and a space to work, uninterrupted, when they are inspired. It is important to provide the best quality that we can afford - pencils, crayons, felt pens, clay, paper, brushes - and to teach the child how to care for them.

Art Activities
(3-12 , Age 3-6 Art)

Individual art work connected with other subjects is more common in Montessori environments than group projects or models created by the teacher for children to imitate.

Just as any other activity in the Montessori 3-6 class, each art activity is kept complete and ready for use. The adult gives a lesson to one child, complete with cleaning up, so that he can choose this work at any time. If a child is interested in painting for example, he will find an apron, paper, paints and brushes, all clean and ready.

This cycle of work and the cleaning up, so that it is ready for a friend to use, is psychologically very satisfying for a child.

Art Appreciation
(3-12 , Age 3-6 Art)

Reproductions of great masterpieces inspire an appreciation of beauty at any age. We hang them at the child's eye level, and provide art postcards to sort into groups, such as by artist.

Stories about artists, especially as children, are interesting for children.

Montessori 3-6 environments sometimes have a "museum" table, or shelf where beautiful art objects can be brought into the environment for temporary exhibits. Since everything else in the room is available for handling, this gives practice in just looking, like in a real museum, and allows close exposure to beautiful objects that the child might not otherwise have.

Whenever possible we give the best of examples of art and the best art materials, at the youngest, most impressionable age.

AGE 3-6, GEOMETRY & MATH

If men had only used speech to communicate their thought, if their wisdom had been expressed in words alone, no traces would remain of past generations. It is thanks to the hand, the companion of the mind, that civilization has arisen. The hand has been the organ of this great gift that we inherit.

—Dr. Maria Montessori

The study of math and geometry as symbols on paper arose from a very real and sensorial base. Removed from real objects these studies become dry and meaningless. Children naturally have an interest in all aspects of mathematics, weight, order, systems, series, time, quantities and symbols, and so forth. We can serve the development of the mathematical mind by feeding this interest, giving sensorial experiences first, and only then their representatives on paper.

Montessori 3-6 classes are probably more famous in this country for their math program than anything. People think there is something magic about Montessori math materials. They are certainly ingenious, but the real value for the child is the preparation for math that comes from birth on. Exploration in the environment, counting, sorting, classifying objects, experiences with series of sizes and colors, weighing and measuring, carrying out housework such as dishwashing, with many sequential, logical steps—these are the activities which create the mathematical mind.

Manipulative Materials
(3-12 , Age 3-6 Art)

When Dr. Montessori opened the Casa dei Bambini in Rome in the beginning of this century she did not begin to teach math until the children showed that they wanted to work in this area. It was when the children asked to use the math materials from the elementary classes and were more successful at learning these concepts (!) that math began to be an important part of Children's Houses for younger children.

Many people misunderstand, at first, what it means to learn math at this age. They remember how they learned the multiplication tables for example—tedious and boring, hours of painful repetition that was certainly not the first choice of activities.

In the Montessori House of Children however, children learn the quantities and symbols for numbers in the thousands, they learn addition, subtraction, multiplication and division with the decimal system and with fractions, all simultaneously.

None of this work is required of the children, but it is offered, presented with manipulative materials to one child at a time—by the adult and sometimes another child. There are no teachers lecturing to a group of children who are required to sit still and listen. The children choose this work, and repeat each step with joy and enthusiasm until they are ready to move on to the next step.

Certainly not every child masters or even works with every piece of math material in a Montessori Class, but he is surrounded by other children joyfully exploring math. What a different and wonderful introduction to a subject detested by many of us.

A child who is allowed to explore with real mathematical objects at an early, motor-sensorial age often becomes a real math lover later in life.

Math and geometry materials do not have to be expensive; they can be made of cardboard cubes, strings of beads, blocks, beans, anything which helps the child grasp the concept through her senses.

Montessori teachers are well trained to teach these concepts, but there are many ways to give a child a good sensorial grounding in math and geometry. The book *Family Math*, in the Parenting/Teaching section, is a good overview for parents, which shows how easily an early interest in math can be fostered with materials easily found in the home.

AGE 6-12, FAMILY

Introduction

At six, there is a great transformation in the child, like a new birth. The child is no longer interested only in himself and his family members but wants to explore society and the world, to learn what is right and wrong, and to explore meaningful roles in society.

The child of this age wants to know how everything came to be, the history of the universe, the world, humans. We give him research tools and send him out into the community with purpose. He wants to be important, to learn to direct his own life and learning. Given freedom and trust, he will explore, learn, and create in directions we could not have predicted, and accomplish amounts of work we would never have demanded. The child at this age explores areas usually not introduced until high school, such as algebra, square and cube root, geometry, botany and zoology, evolution and classification, chemistry and physics experiments, the history of math and language, grammar and sentence analysis, and so on. They learn to love these studies, and nothing could better prepare them for later work in these areas.

Montessori elementary children work together to do research, plan and execute projects, and to share them with other members of the class who are interested. They learn to work in multi-age and multi-ability groups, making use of the interests and abilities of all. This is excellent preparation for adult life in a peaceful society.

The Montessori-trained adult teaches the child how to teach, and facilitates social development, and creativity, supports independent thinking, and provides an environment for uninterrupted concentration by the individual child.

Except for a state required curriculum, which takes very little time when children are working individually at their own pace, lessons in the Montessori elementary class are only offered, not required of the children. Children learn to plan and to be responsible for their own work.

There are certain ages when we have found that children are often interested in a given subject, but the wise adult follows the child, knowing that the human mind works on its own, guided by a power within.

Cooperation & Peace
(3-12 , Age 6-12 Family)

Peace is not just the absence of war. It is also the way we treat each other in our daily lives, the way we communicate, and the way we solve problems. Peace begins inside us, at home, at school. Besides setting examples we can give children ways to practice functioning peacefully by means of manners and community service.

The child of age six to twelve is intensely interested in fairness, and in all kinds of interactions in his group. Because of this cooperative games provide an important alternative to the feeling of pitting people against each other which is found in many education systems and in sports and games. They provide practice in working together and in solving problems for the good of all.

The acts of courtesy which he has been taught with a view to his making contacts with others must now be brought to a new level. The question of aid to the weak, to the aged, to the sick, for example, now arises. If, up to the present, it was important not to bump someone in passing, it is now considered more important not to offend that person.

While the younger child seeks comforts, the older child is now eager to encounter challenges. But these challenges must have an aim.

The passage to the second level of education (age 6-12) is the passage from the sensorial, material level to the abstract. A turning toward the intellectual and moral sides of life occurs at the age of seven.

—Maria Montessori

AGE 6-12, EARTH

I live in heaven, my country is a sphere which turns around the sun. It is called Earth.

—Maria Montessori

From Astronomy to Geology
(3-12 , Age 6-12 Earth)

In the far distant past, the sciences were taught in conjunction with the study human life. This changed radically with the discovery, by Copernicus, that the Earth is not the center of the universe—science and religion going their separate ways.

In Montessori the break is healed by the approach called "God without Hands." In this first great lesson, the child learns that:

(1) All of the rules and physics and chemistry (i.e. gravity) follow an order dictated by God, or a creative force, and . . .

(2) Each element, from the tiniest atom to the human being, has an important role to play, a "Cosmic Task", in this scheme.

As in all areas of the Montessori curriculum Earth Sciences—physics, chemistry, etc., begin with the overview and progress to the details. The child learns the functioning of the galaxies, the universe, to solar systems, the formation of Earth, seasons, natural wonders, the weather,, the rocks and minerals, etc. As he learns about the discovery of these things in the past he participates in this discovery by means of experiments in all areas.

Beginning at age six, physics, chemistry, and geography, and so on are introduced and they continue until the end of the elementary class at age twelve.

Each year the child sees more interrelationships between these areas because lessons and experiments are going on all the time at all levels. Older children often come to lessons given to the younger children, and younger children are welcome at lessons given to their elders.

Because the child at this age is very interested in using his imagination, we also give him the mythology of the world by which humans have explained natural laws. He develops language skills by the study and written expression of this work, and math and geometry come alive as tools to measure these discoveries.

The teacher does not require specific work, but guides the children as individuals or self-formed small groups in doing research following their own interests, and in creating and finishing research projects and in finding a way to express them. The teacher gives the basic lessons over and over, but never knows, each year, where this research will go each year and with each group of children. This is as exciting for the teacher as for the children.

Lab Manuals
(3-12 , Age 6-12 Earth)

Children can develop personal lab manuals, sometimes drawn, sometimes written beginning at age six and continuing through the years. The scientific method of recording experiments follows the traditional format, the children selecting an experiment, gathering the materials, following the steps to test the hypothesis, and observing, and sometimes recording the results and explanation.

Timelines
(3-12 , Age 6-12 Earth)

Timelines are used in all areas of the Montessori curriculum. For an interesting timeline, make a long strip of cloth or paper, marking the years in the billions, millions, thousands - like a long yardstick - from the beginning of earth's creation to the present.

Next figure out how long there have been plants and animals and color this part of the timeline a different color.

Now mark, with another color, the length of time humans have been here. This is a powerful image for children, or adults.

Timelines can be made for all different subjects, tracing the history of the natural and other philosophers, the development of mapping the world, the discovery of elements, and so forth.

Models, plays enacting historical dramas such as the measurement of the earth, songs, artwork, giant math problems, all of the curriculum is interwoven with the study of the history of the earth.

AGE 6-12, PLANTS & ANIMALS

How often is the soul of man, especially that of the child, deprived because one does not put him in contact with nature.

There is no description, no image in any book that is capable of replacing the sight of real trees, and all the life to be found around them, in a real forest. Something emanates from those trees which speaks to the soul, something no book, no museum is capable of giving. The wood reveals that it is not only the trees that exist, but a whole, interrelated collection of lives. And this earth, this climate, this cosmic power are necessary for the development of all these lives. The myriad lives around the trees, the majesty, the variety are things one must hunt for, and which no one can bring into the school.

—Maria Montessori

In the Montessori elementary class, for children from age six to twelve, the study of biology has three main focuses:

(1) experiments and observation of plants and animals to discover their needs and the amazing variety of each,

(2) evolution of plants and animals,

(3) classification of plants and animals.

At the beginning of each year the teacher inspires children to carry out research in these areas by telling stories, and presenting beautiful books, posters and charts, and timelines. Then each child begins a journey of discovery, following individual interests and coming together for research projects and presentations. Every year is unpredictable, even the teacher not knowing completely what will be covered, as the rule is to "follow the child."

Experiments & Observations
(3-12 , Age 6-12 Plants & Animals)

Experiments and observations help the child to discover first hand just how plants and animals live, to find out how they meet their needs, and to discover the amazing variety of life forms. Children start to become aware of the environment in a new way, discovering, for example, the tiny plants in the cracks of pavements—growing wherever they can find a little light, moisture and nourishment. This close hand experience makes children appreciative and protective of all of life.

Adaptation & Changes of Plants and Animals
(3-12 , Age 6-12 Plants & Animals)

The experiments and observation lead to research which helps the child travel, through his tremendous imagination back through time to the very beginning of life, to discover the miracle of variety and the transformation of plants and animals through time.

Classification
(3-12 , Age 6-12 Plants & Animals)

The discovery of the multitude of kinds of plants and animals helps children understand why there must be a system of sorting and naming them—classification.

Children want to know how and why plants and animals have been classified and how the systems of classification change as we learn more about biology. This work links biology to logic, math and language, English and Latin.

When subjects flow into each other like this, a child following an interest, the knowledge is in a sense recreated by the child and becomes a part of his long term memory, instead of a subject to be memorized, tested on and forgotten. Biology often becomes a lifelong interest for these children.

AGE 6-12, GEOGRAPHY, HISTORY, BIOGRAPHY

Today those things which occupy us in the field of education, are the interests of humanity at large and of civilization. Before such great forces we can recognize only one country - the entire world.

—Dr. Montessori

Those who do not remember the past are condemned to relive it.

—Santayana
Philosopher,
Harvard University

History , Geography, and Biography
(3-12 , Age 6-12 Geography, History, Biography)

History, geography, and biography—the history of a people cannot be separated from the possibilities of the environment in which it develops, and the leadership of its great men and women.

In the beginning of each year the children are introduced to the study of humankind with stories, beautiful books, maps, posters, timelines and other research inspirations.

Throughout the six years in the elementary class, the child moves from the general to the

specific in the following general way:

Age 6-8, the emphasis is on prehistoric life, and plants and animals.

Age 8-10, the emphasis is on early civilizations, from tribal cultures and ancient civilizations to the development of modern cities.

Age 10-12, the emphasis is on the child's national and state history.

Of course all of these studies are going on at the same time and the child is free to follow her interests, no matter what the age.

History is essential a record of how humans fulfilled their physical, mental, and spiritual needs. These can be thought of as: (1) physical needs: food, clothing, shelter, transportation and defense, (2) mental tendencies: work, exploration, creation, communication, play, and, (3) spiritual needs: self respect or self love, love of others, creative love and the love of God.

These subjects are also experienced subjectively in the classroom. For example, as the child learns about how different people obtain food, he learns to grow and prepare food. As he learns about clothing he may learn to knit or to make clothing or costumes. He studies the arts of other cultures while developing his own musical and other artistic talents. And while studying the ethics and religions of other cultures he is exploring his own relationship with friends, family and God.

This creates, not only new abilities, but an empathy with members of other cultures in the present and the past.

American History
(3-12 , Age 6-12 Geography, History, Biography)

"American History" begins with the study of those who first arrived in this country, not with the immigration of Europeans. American history is the story of the Native Americans and the people, from all over the world who have settled here.

American History Timeline: An excellent way to make this point is to take a long role of adding machine paper and put the dates from, say 20,000 BC (or whenever humans arrived on the North American continent according to the most recent archaeological findings) to the present.

Then make little cards with pictures and dates to show the relationship of events in time. Some suggestions are "crossing the Bering Straits", "Height of Aztec civilization" (and as many other Native American events as you and the children can find) "Columbus arrives", "TV was invented" and so forth. Laying the cards gives an impression or overview of American History. Timelines can be made on any subject.

Biography
(3-12 , Age 6-12 Geography, History, Biography)

As children learn about the great men and women of the past it is important that we remind them that they all started out as children—and that the potential to be great and to contribute to the world is in all of us.

Here is one quote which expresses this idea beautifully:

Each second we live is a new and unique moment in the universe - a moment that was never before and will never be again. What we teach our children in school is 2+2=4 and Paris is the capital of France. When will we teach them what they are? What we should say to them is:

Do you know what you are? You are a marvel! You are unique! In all the world there is no other child exactly like you! In the millions of years that have passed, there has never been a child exactly like you.

Look at your body, what a wonder it is! Your legs, your arms, your cunning fingers, the way you move! You may be a Shakespeare, a Michelangelo, a Beethoven . . . You have the capacity for anything. Yes, you are a marvel. And when you grow up, can you then harm another who is like you a marvel?

—Pablo Casals , Cellist

AGE 6-12, LANGUAGE

Creating a Language Environment
(3-12 , Age 6-12 Language)

A love of reading and writing comes about quite naturally for a child who grows up seeing other people tell stories and read, and who is often read to. Writing notes, grocery lists, thank you letters, and recording personal experiences by means of drawings and written stories, can begin at a very early age.

A nightly ritual of family reading (instead of watching TV) is a good way to make sure that there is time for all the great literature and poetry that you might want to read to your child. In our family we as parents have filled in many a gap in our own experience of great stories and books in this way.

Poetry brings more important elements into the child's language; there is a great increase in vocabulary when one delves into poetry. Even in the simplest forms words are used that are not common in prose. The music of poetry gives greater pleasure and facilitates memorization. Our favorite kinds of poetry are those that can be read aloud, like a Greek chorus, or which tell long stories, such as the Pied Piper.

It sometimes happens, however, that a child becomes disinterested in reading on his own because he is afraid this nightly ritual will come to an end. To prevent this we can assure the child that we will continue to read as long as he desires. In our home we still occasionally take turns reading at bedtime with our fifteen-year-old.

Reading well takes years and a child continues to need the inspiration of being read to.

He needs to hear the correct pronunciation of new words, the increase of vocabulary, the intonation and beauty of voice and expression of an experienced reader.

But most of all he needs, and perhaps never outgrows the need for, the love and the closeness, the personal attention from parents, a friend or a teacher, that comes with curling up with a book, picturing the magic scenes in his head with his eyes closed as he listens, and listens.

The child over seven is intensely interested in morals and ethics. Mythology provides a wealth of material for this exploration, and inspires discussion which will encompass the behavior in everyday life, in the family, the class, and society.

Learning to Read
(3-12 , Age 6-12 Language)

If a child learns to read in a motor-sensorial way with no pressure she may learn before the age of five or six. But it is quite natural for a child not to show an interest until later. The most important thing is that learning be a relaxed, and enjoyable experience.

When a child first begins to read independently, we never ask him to read aloud. To read a word while you are, at the same time, saying aloud the word you have just finished decoding, is a very complex operation and can cause a lot of stress - certainly not enjoyment.

We give beginning readers reading cards and vocabulary books to help them build up a large vocabulary with no stress.

The best first books are written about the child's environment, about the real world—history, sciences, etc.—or are abridged classics which lead to an interest in great literature.

Creative Writing
(3-12 , Age 6-12 Language)

I hear and I forget; I see and I remember: I write and I understand.

—Chinese Proverb

A child who has had an active physical and mental life, with her whole body and with the hands in particular, will usually find writing easy. Running, hopping, cooking, gardening, sewing, drawing, all help to prepare for writing. And a wealth of experiences prepare for content.

When the child first begins to write we do not make corrections. We "teach by teaching, not by correcting". Instead we teach all of the necessary skills in activities which are completely unrelated to the creative writing effort, as indirect preparation.

The following is a suggestion for teaching spelling:

Personal Spelling Dictionary
(3-12 , Age 6-12 Language)

Most of the words in the spelling lists usually given to children to learn are never really used. In Montessori classes the child constructs his own "spelling dictionary" of those words which are a part of his individual writing

vocabulary.

For this you can use a simple address book, preferably one without any writing in it, just the alphabetized tabs. Or you can cut tabs into the pages of a small notebook. Whenever a child comes to you for the spelling of a word, or if he asks you to check the words he has written and you find some misspelled, write these words - beautifully of course - in his spelling dictionary - words beginning with 'a' in the 'a' section and so forth. The next time he wants that word he will be able to find it in his own book. Eventually he will be able to find the words he needs in a regular dictionary and add them to his own book.

The children can have spelling tests among themselves to learn their own particular words. You will soon find that there are not so many words the child needs to learn to spell, and those will be the ones he always uses. This will gradually give the child confidence to use more varied words, because they will be in his own book – and his writing vocabulary will grow by leaps and bounds.

Handwriting

(3-12 , Age 6-12 Language)

Beautiful writing has been a lost art in our country for many years but it is having a resurgence. Children feel very good about themselves and tend to write far more when they have been taught beautiful handwriting. Giving a child a new alphabet and a different kind of writing utensil often does wonders to inspire writing. The Italic script is very beautiful and a link between cursive and print. I have seen a child's cursive writing improve dramatically as he casually worked through a set of Italic workbooks over a period of years.

The History of Language

(3-12 , Age 6-12 Language)

Through stories, pictures and beautiful carefully chosen books, we enable the child to begin to understand:

(1) The path traced by language, the growth and development of language - through travel, colonization, commerce, war, etc.,

(2) How humans have given a name to everything found or made and how this process continues,

(3) How language constantly changes and why, (4) That language is an expression of the creative force of humanity.

At this age children in many ways are repeating the history of humans on earth. They want to cook, sew, garden, begin to learn all of the skills of adults. Children and adults alike find it fascinating to trace the development of the language, to realize that in the past only a few people, sometimes only priests, knew how to read and write. They find the connection between the migrations and other contacts between groups of people and the many different languages on earth.

Etymology

(3-12 , Age 6-12 Language)

Etymology, or the origin and historical development of words, is fascinating to children at this age. In Montessori schools it is the basis of learning to spell, and to understand the history of the world.

In our family we have a very large dictionary always available on a special table in the living room. Nothing else is allowed to be put on the table so that the dictionary is always usable. We look up the etymology, or the origin of words, even more often than we look up the meanings. If you do not have a good dictionary and are planning to purchase one we recommend that you make sure that the origin of words is included along with the pronunciation and definition.

We often take names of people and places for granted, assuming that they existed from the beginning of time. Imagine the amount of history and geography one can learn stories of how people and places were named!

Studying the history of names, first names and last names, is a wonderful way to interest children in language. Most of us have completely lost touch with the history of our families for more than two or three generations, and have no idea how and why we are named what we are. This information can inspire a never ending study of language.

Grammar

(3-12 , Age 6-12 Language)

As adults we have mixed memories of learning grammar. Usually these studies are considered difficult and taught at a period of life when we were not really interested in language. It works best to follow the child's interest and this is the time of life when children are very interested in the progress of civilization, including language - including the structure of their own language.

Many great educators and philosophers have stated that there is nothing that cannot be taught if the student and the subject matter are well understood and creatively put in touch with each other. We try to make everything interesting, so that it will be enjoyed and retained.

AGE 6-12, THE ARTS

Imagination does not become great until man, given the courage and strength, uses it to create. If this does not occur, the imagination addresses itself only to a spirit wandering in emptiness.

—Maria Montessori

A group of Montessori teachers visited the U.S.S.R. a few years ago for an international conference on education. They were interested in learning from the Germans, the Russians, and a few other countries, how their children accomplished so much in the math and sciences. They were shocked to learn that the teachers from these countries were anxious to find out how the American students reached such high levels of creative thinking!

Math and science are very important—but not more so than the arts! What good are they without a curious and creative mind which manipulates the facts to make new discoveries?

When information is processed in some active, musical or artistic way—graphs, posters, drawings, creating maps, songs, plays, and so forth, the knowledge becomes permanent instead of short term memory data for testing. And it strengthens the creative part of the brain. Processing means The Arts!

In Montessori classrooms the work takes the form of projects where the head and hand work together. Whether the subject is geography, biography, history, math, or language, it is expressed in some creative form. But once the adult understands the process, this can occur in many places. In order to do this she must have the tools and the time. She needs a constant supply of art materials, exposure to good music, time to think and to work uninterrupted, and respect for the expression of her emotions, thoughts, ideas—two and three-dimensional art, weaving, beautifying the environment, poetry, theatre, song, instruments—there are no limits to avenues of creativity.

Not only are the famous artists and musicians studied, but ordinary people who bring arts into their everyday life. A child might interview parents, teachers, grandparents, to see what art forms they pursue as hobbies, what they did as children, and what are their dreams.

One school we know selects a group art creation every year and auctions it off to raise money for a field trip. Many elementary classes create original musical reviews and music concerts.

When these elementary-aged children reach adolescence they will need to express themselves during that most creative period of life. To those adults who have a daily experience of the arts, living without it would be like living in black and white instead of in color. This period of life, between the age of six and twelve, is the time to explore and to develop a facility in as many art and music forms as possible.

AGE 6-12, GEOMETRY, MATH, & INVENTION

Geometry, Math, and invention are languages used to explore and manipulate, to theorize and create, real objects in a real world. Einstein's scribbles on paper were symbols for the relationship between galaxies and atoms when he worked on quantum physics. We must keep sight of this fact when teaching children.

These studies make much more sense and are more interesting when they are presented with manipulative materials, or related to real problems and situations in a child's life.

In the Montessori elementary class stories are told and experiments carried out to show children how humans used their imaginations to solve problems and come up with great inventions—the use of fire, measuring the earth, compasses, boats, and many others. They see how inventions, geometry and math came about as the result of human progress, to meet specific needs.

Geometry, for example, arose from the practical need to reestablish planting boundaries after the annual flooding of the Nile in Egypt. In "geometry," "geo" stands for "earth," and "metry" for "measure."

Children of this age love to reach back into history with their imaginations and reconstruct these needs and solutions and the creation of systems of learning. The Hindus introduced the use of "0." Let the child try to do math without it! Where did algebra, calculus, trigonometry come from? They want to know!

Children are inspired by these stories, and by examples and pictures, to find out more. Children come to realize that mathematics has evolved and is still evolving from a practical need. Math, graphing, fractions, all become logical tools for recording and measuring, and algebra as a short cut for recording.

We encourage children to make up their own problems—especially story problems related to their lives and the subjects they are studying—for themselves and for their friends, in order to come to a very practical and clear understanding of geometry and math.

We give manipulative materials in all areas of math and leave it to each child to decide when he is ready to work without materials—in the abstract.

With higher math, geometry and algebra, we give many practical examples and help the children come up with their own formulae after much experience. For example, if a child measures all of the rectangles in the room—tables, windows, books, etc. for figuring surface area, he will easily create, and even better understand, the formula "A=lw."

For each grade level, from 1st through high school, the children are shown the state requirements of math, just as any other subject. Then they learn to plan and schedule their work. It is left to each child to decide the best system and schedule, through trial and error, and with adult help, depending on learning styles, and interests.

This teaches the math of planning, scheduling, allotting sufficient time, and it teaches responsibility.

When children are give this solid, material foundation, and see the relationship to geometry and math to the real world, it makes it easier for them, in later years, to spend long periods of time working on paper.

This is because they know that these steps are just that—*steps* which will take them to a new level of understanding in the exciting world of math and science.

AGE TWELVE TO EIGHTEEN+

AGE 12 - 15

(3-12 , AGE 12-18+)

The Montessori program for the young adult from age twelve to fifteen is very different from that of traditional school. Dr. Montessori felt that because of the rapid growth, the increased need for sleep, and changing hormones, it is useless to try to force the adolescent to concentrate on intellectual work. She recommended an *Erdkinder*, or Earth school, where children would live close to nature, eat fresh farm products, and carry on practical work related to supplying food, shelter, transportation, and so forth. Intellectual work is still done, following the child's interests, but without pressure.

Adolescence is an arbitrary, contrived category. In past eras children were children until the early teens wherein, through some rite of passage, they were ushered into and took their place in adult society. Today there is no economic place for young adults and no rites of passage. We have, instead, created a holding stage that keeps young people in a limbo, into which children enter earlier and adults stay longer year by year.

—Joseph Chilton Pearce, *Evolution's End*

A CLASSROOM EXAMPLE

(3-12 , AGE 12-18+)

Years ago I was teaching adolescents in a Montessori school on a Caribbean island. A very bright thirteen-year-old boy was having trouble concentrating on math and other purely intellectual subjects, so I watched carefully to discover his real interests, which were: house, job, music, and parenting.

In our class the children designed and developed long-term research projects and presentations. This boy was behind in academic areas so I helped him weave his interests into projects that would utilize skills that he needed to practice. He spent hours planning his dream house, complete with indoor swimming pool and skateboard area. In doing this he researched houses of various cultures and used plenty of math, graphing, and geometry in constructing the house plans. He did a feasibility study for beginning a skateboard construction-and-repair business—rents, prices of equipment, market value of skateboards and labor costs. He began to study piano, recorder and guitar in class using classical and folk instruction books, with help when he needed it. This study of music was probably the greatest practice in self-discipline in scheduling daily practice, and the personal and social rewards were immediate. It seemed to help him express the changing emotions that otherwise would have no constructive outlet.

It was the interest in parenting which was most intriguing. Here was this tall gangly, adolescent boy, leading the group on the softball field, but if he heard a cry or yell of one of the children in the 3-6 class at the other end of the campus, he immediately put down the bat and ran to see what was the matter! There was one three-year-old in particular, Paloma, who seemed to have captured his fathering heart. They had only just met at the Montessori school, but he could single out her voice from all others, from quite a distance, and would always go to her aid.

More than anything else, at this time when intellectual skills were low because of physical and emotional progress, his being needed as a protector by the young gave him a feeling of worth.

AGE 15 - 18+

(3-12 , AGE 12-18+)

For age fifteen to eighteen, when the rapid growth of adolescence is slowing a more rigorous intellectual schedule works, combined with social work and apprenticeships in the work world.

There are many Montessori schools for children in the middle and high school years in the USA today. For information contact NAMTA (address in the Parenting/Teaching section).

The need that is so keenly felt for a reform of secondary schools concerns not only an educational, but also a human and social problem... Schools, as they are today,

are adapted neither to the needs of adolescents nor to the times in which we live. Society has not only developed into a state of utmost complication and extreme contrasts, but it has now come to a crisis in which the peace of the world and civilization itself are threatened... More than to anything else it is due to the fact that the development of man himself has not kept pace with that of his external environment.

But above all it is the education of adolescents that is important, because adolescence is the time when the child enters on the state of manhood and becomes a member of society. If puberty is on the physical side a transition from an infantile to an adult state, there is also, on the psychological side, a transition from the child to the adult who has to live in society. These two needs of the adolescent: for protection during the time of the difficult physical transition, and for an understanding of the society which he is about to enter to play his part as a man, give rise to two problems that are of equal importance concerning education at this age.

The world is partly in a state of disintegration and partly in a state of reconstruction... It is necessary that the human personality should be prepared for the unforeseen, not only for the conditions that can be anticipated by prudence and foresight. . . . he must be strengthened in his principles by moral training and he must also have practical ability in order to face the difficulties of life.

Men with hands and no head, and men with head and no hands are equally out of place in the modern community.

Education should not limit itself to seeking new methods for a mostly arid transmission of knowledge: its aim must be to give the necessary aid to human development. This world, marvelous in its power, needs a 'new man'. It is therefore the life of man and his values that must be considered. If 'the formation of man' becomes the basis of education, then the coordination of all schools from infancy to maturity, from nursery to university, arises as a first necessity.

—Dr. Maria Montessori:
From Childhood to Adolescence

Money & Apprenticeships
(3-12 , Age 12-18+)

In Montessori elementary classes children learn how to balance and schedule their time, to set work goals and to accomplish them, and the skills in budgeting and handling money.

In an Erdkinder, for ages 12-15, children will have had as much experience as possible in handling money. By high school they really are becoming adults and can participate in planning the budget of the home.

One of the most important lessons is the experience of learning how much time and work is involved in earning money. There are few jobs for teenagers, and those which pay a salary are usually not educational. A better place to learn might be an unpaid apprenticeship.

It is time-consuming to take an untrained person in and share the work, and often, because of the lack of training and the short hours, having an apprentice is more of an expense than a help to a business. Young people should be aware of this and look for what they can offer or learn, instead of what they can get in the way of salary. Apprenticeships are not paid positions, but they can be extremely beneficial to the students, and sometimes open up important job possibilities in the future.

It is important that young people get in the habit of using what money they do earn for necessities such as food and transportation, or they will lack the skills to move out into the world and be independent—needing forever to live at home!

By the '80's, three out of four high-school seniors were working an average of 18 hours a week and often taking home more than $200 a month. But their jobs, often in fast-food chains, were rarely challenging and earnings were immediately spent on cars, clothing, stereos and other artifacts of the adolescent good life. Indeed, researchers at the University of Michigan find that less than 11 percent of high-school seniors save all or most of their earnings for college or other long-range purposes.

In short, teenage employment has only intensified the adolescent drive for immediate gratification. Instead of learning how to delay desires, students are indulging what University of Michigan researcher Jerome Bachman calls "premature affluence." The problem, says Bachman, is that these adolescents tend to get accustomed to an unrealistic level of discretionary income which is impossible to maintain at college, unless they have extravagant parents. "And if they don't go to school," he observes, "they will have to continue to live at home if they hope to keep up their personal spending habits."

One of the sources of this problem is TV, according to Ralph Nader, who says in Co-op America's newsletter, "Building Economic Alternatives" (Fall 1989) that children "see 25,000 television ads by the time they are seniors in high school. Our leaders have exposed millions of children to a pattern of commercial exploitation that even shocks Western European merchants because they live in countries where children's ads on TV are banished since small children are not able to distinguish between programs and ads."

—Kenneth Woodward
Newsweek, Winter/Spring 1990
from "Young Beyond their Years"

University Age
(3-12 , Age 12-18+)

Many educators are recommending a year off between high school and university. The purpose of this is to give young people a chance to experience real life and its effort and responsibilities, and to learn who they are and where their interests lay.

Both of our daughters had that experience, and both, at different times, had apartments within a few blocks of our home which they paid for by working. I remember the end of the first week of our first daughter's experience: "I can't believe how much time it takes to go to work, do the laundry, buy food and clean. It takes all my time when I am not at work. I don't know how you do it!"

Ahhh, she was starting to learn . .

A substantial majority of big British companies, and nearly all universities support the idea of students putting in a year at work immediately after school and before going to university.

—"The Education Guardian"
London, England, 2/24/87

It is not enough to teach a man a specialty. Through it he may become a kind of useful machine but not a harmoniously developed personality. It is essential that the student acquire an understanding of and a lively feeling for values. He must acquire a vivid sense of the beautiful and of the morally good. Otherwise he - with his specialized knowledge - more closely resembles a well-trained dog than a harmoniously developed person. He must learn to understand the motives of human

beings; their illusions, and their sufferings in order to acquire a proper relationship to individual fellow men and to the community.

These precious things are conveyed to the younger generation through personal contact with those who teach, not - or at least not in the main - through textbooks. It is this that primarily constitutes and preserves culture. This is what I have in mind when I recommend the 'humanities' as important, not just dry specialized knowledge in the fields of history and philosophy.

Overemphasis on the competitive system and premature specialization on the ground of immediate usefulness kill the spirit on which all cultural life depends, specialized knowledge included.

It is also vital to a valuable education that independent critical thinking be developed in the young human being, a development that is greatly jeopardized by overburdening him with too much and with too varied subjects (point system). Overburdening necessarily leads to superficiality. Teaching should be such that what is offered is perceived as a valuable gift and not as a hard duty.

—Albert Einstein
"Education for Independent Thought"
New York Times, Oct. 5, 1952

And how far, we may ask, does it take one to hold a degree these days? (Written in 1949) Can one be sure of even earning a living? ...And how do we explain this lack of confidence? The reason is that these young men have spent years in listening to words and listening does not make a man. Only practical work and experience lead the young to maturity.

My vision of the future is no longer of people taking exams and proceeding on that certification from the secondary school to the university, but of individuals passing from one stage of independence to a higher, by means of their own activity, through their own effort of will, which constitutes the inner evolution of the individual.

—Dr. Maria Montessori:
From Childhood to Adolescence

Notes:

We are compiling a reading list for age 12-18+. A list of books that inspire, uplift, give us faith in humanity and the future of Earth, and provide positive role models—fiction, science fiction, non-fiction, multicultural. Please send us your recommendations. MIchael Olaf, P. O. Box 1162, Arcata, CA 95518

Thank you!